IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Graham, et al.
Serial No.: 09/703,941
Filed: November 1, 2000

Examiner: Woo, Issac M.
Art Unit: 2172
Confirmation No.: 4046

For: **SYSTEM AND METHOD FOR DATA COLLECTION, MANAGEMENT AND ANALYSIS**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313

Sir:

REPLY

Responsive to the Office Action mailed October 31, 2005, Applicants submit herewith a Reply. In addition, please provide a three-month Extension of Time up to and including April 30, 2006, to answer the Office Action, as provided for in 37 CFR 1.136. The Commissioner is hereby authorized to charge the amount of **$1020.00** for the Extension of Time fee to Deposit Account 09-0528.

If any additional fees for the accompanying response are required, Applicants request that this be considered a Petition therefor. The Commissioner is hereby authorized to charge any additional fees which may be required to Deposit Account 09-0528.

The Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 18 of this paper.

Listing of Claims:

1. (previously amended) A computer-implemented method of locating one or more remote databases containing a desired type of data, comprising:

searching for at least one remote database accessible via a network of computer systems;

determining whether each remote database found during the searching is comprised of the desired type of data, wherein the desired type of data is time series data; and

storing location information for each remote database found during the searching if the remote database is comprised of the desired type of data.

2. (original) The method of claim 1, further comprising:

selecting at least one remote database found during searching that is comprised of the desired type of data for use in a predetermined data analysis;

retrieving data from the selected remote database via the network of computer systems; and

using the data retrieved from the selected remote database in the predetermined data analysis.

3. (original) The method of claim 2, further comprising for at least one remote database found during the searching that is comprised of the desired type of data:

storing an indication that the remote database is comprised of data that has been used in the predetermined data analysis.

4. (original) The method of claim 3, further comprising for at least one remote database that is comprised of data that has been used in the predetermined data analysis:

determining at a predetermined time interval whether the database has changed; and

if the database has changed, updating the predetermined data analysis using the changed data.

5. (previously amended) The method of claim 4, wherein the predetermined time interval is determined on the basis of the frequency of the time series data.

6. (original) The method of claim 4, further comprising for the at least one predetermined data analysis that has been updated:

providing an indication to a predetermined user that the predetermined data analysis has been updated.

7. (original) The method of claim 4, further comprising for the at least one predetermined data analysis that has been updated:

providing the updated predetermined data analysis to a predetermined user.

8. (original) The method of claim 2, wherein the predetermined data analysis is a forecast.

9. (original) The method of claim 8, wherein the forecast is an economic, demographic or meteorological forecast.

10. (original) The method of claim 2, wherein the predetermined data analysis is specified by a user.

11. (original) The method of claim 2, further comprising:

selecting at least one local database specified by a user, wherein the local database is comprised of the desired type of data for use in a predetermined data analysis;

retrieving data from the selected local database via the network of computer systems; and

using the data retrieved from the selected local database in the predetermined data analysis.

12. (original) The method of claim 1, further comprising:

storing information about the number of times that a remote database containing the desired type of data is used in at least one predetermined data analysis; and

if the number times the remote database is used in the predetermined data analysis exceeds a predefined value, storing locally the data used in the predetermined analysis.

13. (original) The method of claim 1, further comprising:

receiving a specification of the desired type of data before the searching and the storing.

14. (cancelled)

15. (original) The method of claim 1, further comprising:

determining the type of data relevant to a predetermined analysis before the searching and the storing.

16. (original) The method of claim 1, further comprising for each remote database found during the searching that is comprised of the desired type of data:

determining information about at least one characteristic of the remote database; and

storing the information about the at least one characteristic of the remote database in association with the location information for the remote database.

17. (original) The method of claim 16, wherein the information about the at least one characteristic of the remote database is selected from the group consisting of data frequency, data units, data scale, data source, data update date, and number of data points.

18. (original) The method of claim 17, wherein data frequency value is determined by calculating a time interval between individual data values of the desired type that are contained in the remote database.

19. (original) The method of claim 16, wherein the at least one characteristic of the remote database is determined from at least one XML data definition tag that is associated with the remote database.

20. (original) The method of claim 16, further comprising:

receiving from a user a specification of a desired remote database characteristic;

searching the stored remote database characteristic information; and

identifying one or more remote databases having the desired remote database characteristic.

21. (original) The method of claim 20, further comprising:

providing information to the user identifying the one or more remote databases having the desired remote database characteristic.

22. (previously amended) The method of claim 1, wherein the searching for remote databases accessible via the network of computer systems comprises:

reading network address information for at least one computer system within the network of computer systems;

accessing the at least one computer system based on the network address information; and

retrieving information from the at least one computer system sufficient to determine whether the at least one computer system provides access to at least one remote database.

23. (original) The method of claim 22, further comprising using predefined communications protocol to access the at least one computer system and to process the information retrieved from the at least one computer system.

24. (original) The method of claim 23, wherein the predefined communications protocol is TCP/IP.

25. (original) The method of claim 22, further comprising using predefined database formatting information to access the at least one computer system and to process the information retrieved from the at least one computer system.

26. (original) The method of claim 25, wherein the predefined database formatting information is comprised of a plurality of predefined database format definitions.

27. (original) The method of claim 1, wherein the searching for remote databases within the network of computer systems further comprises:

reading uniform resource locator (URL) information corresponding to at least one computer system accessible via the Internet;

accessing the at least one computer system via the Internet;

determining whether the at least one computer system provides access to at least one remote database; and

storing location information for the at least one computer system if the at least one computer system provides access to the at least one remote database.

28. (original) The method of claim 1, wherein the determining whether the at least one remote database is comprised of data of a desired type is further comprised of:

retrieving HTML formatted information from each computer system found that provides access to at least one remote database; and

parsing the retrieved HTML formatted information to determine whether the at least one remote database is comprised of data of the desired type.

29. (original) The method of claim 28, wherein the HTML formatted information is comprised of a meta tag.

30. (original) The method of claim 1, wherein the determining whether the at least one remote database is comprised of data of the desired type is further comprised of:

retrieving XML formatted information from each computer system that provides access to at least one remote database; and

parsing the retrieved XML formatted information to determine whether the at least one remote database is comprised of data of the desired type.

31. (previously presented) The method of claim 1, further comprising for each remote database found during the searching that is comprised of the desired type of data:

storing an indication of whether the remote database is comprised of time series data in association with the location information for the remote database.

32. (cancelled)

33. (previously presented) The method of claim 31, further comprising:

for each of the time series of data, identifying at least one characteristic of the time series of data; and

storing characteristic information for each time series of data in association with the location information for the remote database in which the time series of data is contained.

34. (cancelled)

35. (currently amended) The method of claim [32] 33, wherein the characteristic information is comprised of:

a number of data points in the at least one time series of data.

36. (currently amended) The method of claim [32] 33, wherein the characteristic information is comprised of:

a starting time of the time series of data;

an ending time of the time series of data; and

a time interval between each of the data points contained in the time series of data.

37. (previously presented) The method of claim 33, wherein the characteristic information is comprised of:

data series format information, wherein the data series format information is comprised of information about the format of the time series of data contained in the at least one database.

38. (previously presented) The method of claim 31, further comprising:

for each of the time series of data, determining whether the time series of data is redundant of a data series for which information has already been stored.

39. (previously presented) The method of claim 38, further comprising:

if the time series of data is redundant of the data series for which information has already been stored, not storing information about the time series of data.

40. (previously presented) The method of claim 38, further comprising:

if the time series of data is not redundant of the data series for which information has already been stored, storing information about the time series of data.

41. (original) The method of claim 1, further comprising for at least one remote database found during the searching:

determining whether a correlation exists between at least some of the data of the desired type contained in the at least one remote database and at least some of the data of the desired type contained in a predefined data set; and

if the correlation exists, storing an indication of the correlation in association with the stored location information for the at least one remote database.

42. (original) The method of claim 41, wherein the predefined data set is comprised of economic data.

43. (original) The method of claim 42, wherein the economic data is microeconomic data.

44. (original) The method of claim 42, wherein the economic data is macroeconomic data.

45. (original) The method of claim 41, wherein the predefined data set is comprised of demographic data.

46. (original) The method of claim 41, wherein the predefined data set is comprised of meteorological data.

47. (original) The method of claim 1, further comprising for at least one remote database found during the searching:

determining a volatility measurement for at least some of the data of the desired type contained in the at least one remote database; and

storing the volatility measurement in association with the stored location information for the at least one remote database.

48. (original) The method of claim 1, further comprising for at least one remote database found during the searching:

determining a seasonality measurement for at least some of the data of the desired type contained in the at least one remote database; and

storing the seasonality measurement in association with the stored location information for the at least one remote database.

49. (previously presented) A computer-implemented method of identifying one or more remote databases that contain a desired type of data, the method comprising:

searching for a remote database accessible via a network of computer systems;

storing location information for each remote database found during the searching; and

storing an indication of whether each remote database found during the searching is comprised of the desired type of data, wherein the desired type of data is time series data.

50. (previously presented) A memory for storing information relating to at least one remote database accessible via a network of computer systems, the at least one remote database being comprised of a desired type of data, the memory comprising a data structure, the data structure comprising:

a database key, wherein the database key uniquely identifies the at least one remote database; and

location information for the at least one remote database, the location information being stored if the at least one remote database is comprised of the desired type of data, wherein the desired type of data is time series data, and the location information being stored in association with the database key.

51. (original) The memory of claim 50, wherein the location information for the at least one remote database is stored regardless of whether the remote database is comprised of the desired type of data, and the data structure further comprising:

data type information, wherein the data type information indicates the type of data contained in the at least one remote database, the data type information being stored in association with the database key.

52. (original) The memory of claim 51, wherein the data type information indicates whether the at least one remote database is comprised of the desired type of data.

53. (cancelled)

54. (original) The memory of claim 50, the data structure further comprising:

database descriptive information about the at least one remote database, the database descriptive information being stored in association with the database key.

55. (original) The memory of claim 50, the data structure further comprising:

database usage information, wherein the database usage information indicates that the at least one remote database is comprised of data that has been used in the predetermined data analysis, the database usage information being stored in association with the database key.

56. (original) The memory of claim 50, the data structure further comprising:

database update information, wherein the database update information is comprised of information about when the at least one remote database was last updated, the database update information being stored in association with the database key.

57. (previously presented) The memory of claim 50, the data structure further comprising:

a data series key for the time series of data, wherein the data series key uniquely identifies the time series of data; and

location information for the time series of data, the location information being stored in association with the data series key.

58. (original) The memory of claim 57, the data structure further comprising:

data series descriptive information about the at least one data series, the data series descriptive information being stored in association with the data series key.

59. (cancelled)

60. (previously presented) The memory of claim 58, the data structure further comprising:

a number of data points in the time series of data, the number of data points being stored in association with the data series key.

61. (previously presented) The memory of claim 58, the data structure further comprising:

a starting time of the time series of data, the starting time being stored in association with the data series key;

an ending time of the time series of data, the ending time being stored in association with the data series key; and

a time interval between each of the data points contained in the time series of data, the time interval being stored in association with the data series key.

62. (previously presented) The memory of claim 57, the data structure further comprising:

data series usage information, wherein the data series usage information indicates that the time series of data is comprised of data that has been used in the predetermined data analysis, the data series usage information being stored in association with the data series key.

63. (previously presented) The memory of claim 57, the data structure further comprising:

data series update information, wherein the data series update information is comprised of information about when the time series of data was last updated, the data series update information being stored in association with the data series key.

64. (previously presented) The memory of claim 57, the data structure further comprising:

data series format information, wherein the data series format information is comprised of information about the format of the time series of data contained in the at least one remote database, and the data series format information being stored in association with the data series key.

65. (original) The memory of claim 50, the data structure further comprising:

database subscription information, wherein the database subscription information is comprised of information about whether payment is required to access the data contained in the at least one remote database.

66. (original) The memory of claim 50, the data structure further comprising:

database access authorization information, wherein the database access authorization information is comprised of information necessary to access the data contained in the at least one remote database.

67. (original) The memory of claim 66, wherein the database access authorization information is comprised of user identification information and a password.

68. (previously presented) A computer readable media comprising software for instructing a computer system to:

search for at least one remote database accessible via a network of computer systems;

determine whether each remote database found during the searching is comprised of the desired type of data, wherein the desired type of data is time series data; and

store location information for each remote database found during the searching if the remote database is comprised of the desired type of data.

69. (previously presented) A computerized apparatus for locating one or more remote databases containing a desired type of data, comprising:

a computer;

at least one remote database, the at least one database being accessible by the computer via a network of computer systems; and

location information for each remote database, the location information being stored in the computer if the remote database is comprised of the desired type of data, wherein the desired type of data is time series data.

Remarks

Claims 1-13, 15-31, 33, 35-52, 54-58 and 60-69 are pending in the present application.

The Examiner objected to Claims 35 and 36, which have been amended to overcome the Examiner's objection.

The Examiner has rejected Claims 1-13, 15-31, 33, 35-52, 54-58 and 60-69 under 35 U.S.C. 102(e) as being unpatentable over U.S. Patent No. 6,202,207 to Donohue.

Claim 1 is directed to a computer-implemented method of locating one or more remote databases containing a desired type of data, comprising the steps of:

searching for at least one remote database accessible via a network of computer systems;

determining whether each remote database found during the searching is comprised of the desired type of data, wherein the desired type of data is time series data; and

storing location information for each remote database found during the searching if the remote database is comprised of the desired type of data.

Donohue does not disclose each and every element of Claim 1. Indeed, Donohue does not disclose any of the elements of Claim 1. Rather, Donohue discloses a method and mechanism for automatic updating of computer programs and synchronizing updates of computer programs and their pre-requisite programs to maintain interoperability. (Abstract.) Donohue makes no mention whatsoever of searching for a remote database comprised of time series data.

The Office Action incorrectly asserts that Donohue discloses the step of searching for at least one remote database accessible via a network of computer systems. To support this incorrect assertion, and ignoring the ordinary meaning of the words, the Office Action asserts that Donohue's reference to a "resource location" or "web site" is a reference to a "remote

database." Office Action at p. 3. It is incorrect to equate the "resource location" or "web site" of Donohue with the "remote database" of the present invention. A "resource location" is nothing more than information about the location of a (computer resource). As is well known in the art, a "database" is a collection of information organized in such a way that a computer program can quickly select desired pieces of data.[1] As is also well known in the art, a "web site" is a site or location on the World Wide Web,[2] and the World Wide Web is a system of Internet servers that support specially HTML formatted documents[3].

The Office Action also incorrectly asserts that Donohue discloses the step of determining whether each remote database found during the searching is comprised of the desired type of data, wherein the desired type of data is time series data. In fact, Donohue makes no disclosure of determining whether a remote database is comprised of time series data. Indeed, Donohue makes no mention whatsoever of series data or time series data. To support this incorrect assertion the Office Action cites Item 60, fig. 2, fig. 3, col. 10 lines 16 –58. More specifically, the Office Action mischaracterizes Item 60 in fig. 2 and fig. 3 as a "time series table." Office Action at 3. Item 60, however, is simply a list of software updates. See col. 9, lines 51-53. Donohue discloses the specific types of information contained in list 60, none of which has anything to do with time:

> The entries in the software updates list 60 include for each software product version 110 an identification 120 of the software resources required for applying the update and an identification 130 of its prerequisite software products and their version numbers. In some cases, the required resources are complete replacement versions of software and associated installation instructions, and deletion instructions for the software being replaced. In other cases, the resources comprise patch code for modifying an existing program (e.g., for error correction) and the patch's installation instructions.

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[1] http://www.webopedia.com/TERM/d/database.html
[2] http://www.webopedia.com/TERM/w/web_site.html
[3] http://www.webopedia.com/TERM/w/World_Wide_Web.html

Col. 9, line 59-col. 10, line 2.

The Office Action is flat wrong in asserting that Donohue's reference to a list of software updates discloses a database comprised of time series data. As discussed in the Specification, and as is well known in the art, "time series data" is data having multiple data points, each of which is associated with a point in time. See Specification, p. 5, lines 18-20.

The Office Action's reliance col. 10 lines 16 –58 to support the incorrect assertion that Donohue discloses the step of determining whether a remote database is comprised of time series data is misplaced. The entire text of col. 10 lines 16 –58 is reproduced below:

> The operation of an updater component will now be described, with reference to FIGS. 3 and 4. When an installed updater component executes, in response to completion of a cycle period or in response to a request from another software product's updater component, its first action is to initiate 200 a search for available updates to the particular software product. It provides to one or more search engines 90 search arguments comprising the product identifier and product version release number obtained by the updater component at install time. Software vendors wishing to benefit from the services of the updater component provide via their Web sites a list 60 of available product updates referenced by product identifier and release number 110 (or some other consistent naming convention is used). The search identifies the relevant Web site 140 on which the update information is available. A URL identifying the relevant Web site 140 for update information is returned 210 to the updater component as a result of the search. If the initial attempt to start a search engine is unsuccessful, then the updater component will attempt to start a different search engine (which may be in a different geographical location to the first), but in alternative embodiments could wait for a preset time period and then retry.
>
> The updater component uses the URL to access 220 the list 60 and downloads 230 a file 160 comprising the portion of the list 60 of available updates which relates to the particular product. The updater component then performs steps 240-280 as shown in FIG. 4. Each file 160 contains message digests (e.g. MD5) which are digitally signed. The retrieved file 160 is then analyzed 240 using a digital signature checking algorithm (such as the algorithm described in U.S. Pat. No. 5,231,668). This verifies that the file 160 represents the correct software updates list for the particular software product, and that the file has not been tampered with since signing. Also, checking for the digital signature is a useful way of filtering the results of the search since these may include a plurality of Web page URLs other than the correct one (the search may find other pages which have a reference to the named product version, including pages not

> published by the software vendor). If an attempt to download and verify a file is not successful, then the updater component moves on to the next URL found in the search.

Clearly, nowhere in col. 10 lines 16–58 is there any disclosure of the step of determining whether a remote database is comprised of time series data. Rather, it discloses a process for updating software components, which includes searching for available updates for a particular software component, downloading a file comprising a list of available updates for the particular software component and verifying that the downloaded list is the correct list of available software updates. Again, nowhere in the cited passage, or elsewhere in Donohue, is there any disclosure of determining whether the specific information being searched for is time series data.

The Office Action also incorrectly asserts that Donohue discloses the step of storing location information for each remote database found during search if the remote database is comprised of the desired type of data. Office Action at 3. To support this incorrect assertion the Office Action cites col. 10, lines 39–58 and Fig. 3, item 230. Col. 10, lines 39-58 of Donohue, which is set forth below, makes no mention of storing location information:

> The updater component uses the URL to access 220 the list 60 and downloads 230 a file 160 comprising the portion of the list 60 of available updates which relates to the particular product. The updater component then performs steps 240-280 as shown in FIG. 4. Each file 160 contains message digests (e.g. MD5) which are digitally signed. The retrieved file 160 is then analyzed 240 using a digital signature checking algorithm (such as the algorithm described in U.S. Pat. No. 5,231,668). This verifies that the file 160 represents the correct software updates list for the particular software product, and that the file has not been tampered with since signing. Also, checking for the digital signature is a useful way of filtering the results of the search since these may include a plurality of Web page URLs other than the correct one (the search may find other pages which have a reference to the named product version, including pages not published by the software vendor). If an attempt to download and verify a file is not successful, then the updater component moves on to the next URL found in the search.

It is simply a mischaracterization of the reference to assert that this passage discloses "storing location information." The URL is used to access the list 60. The list is then downloaded. Nowhere does Donohue suggest that the URL is stored. The present invention advantageously stores location information, as opposed to the data itself, to minimize resources necessary for storing data. Donohue, however, discloses downloading the data itself, which must be stored, not location information.

To summarize, Donohue does not disclose any of the limitations of Claim 1. Again, Donohue discloses a method and mechanism for automatic updating of computer programs and synchronising updates of computer programs and their pre-requisite programs to maintain interoperability. Donohue has no disclosure whatsoever of searching for at least one remote database accessible via a network of computer systems, determining whether each remote database found during the searching is comprised of the desired type of data, wherein the desired type of data is time series data, and storing location information for each remote database found during the searching if the remote database is comprised of the desired type of data.

Claims 2-13, 15-31, 33, 35-48 all depend on Claim 1 and are allowable because Claim 1 is allowable.

With respect to independent Claim 49, Donohue does not disclose a computer-implemented method of identifying one or more remote databases that contain a desired type of data that includes the step of storing an indication of whether each remote database found during the searching is comprised of the desired type of data, wherein the desired type of data is time series data.

With respect to Claim 50, Donohue does not disclose a memory for storing information relating to at least one remote database accessible via a network of computer systems, the at least

one remote database being comprised of a desired type of data, the memory comprising a data structure that includes location information for at least one remote database, the location information being stored if the at least one remote database is comprised of the desired type of data, wherein the desired type of data is time series data. Claims 51-52, 54-58 and 60-67 all depend on Claim 50 and are allowable because Claim 50 is allowable.

Independent Claim 68 is directed to a computer readable media comprising software for instructing a computer system to determine whether each remote database found during the searching is comprised of the desired type of data, wherein the desired type of data is time series data. Claim 68, therefore, is allowable over the cited prior art for the same reasons that Claim 1 is allowable. In addition, Donohue does not disclose a computer readable medium comprising software for instructing a computer to determine whether each remote database found during the searching is comprised of the desired type of data, wherein the desired type of data is time series data.

With respect to Claim 69, Donohue does not disclose a computerized apparatus for locating one or more remote databases containing a desired type of data wherein location information is stored in a computer if a remote database is comprised of the desired type of data, wherein the desired type of data is time series data.

Certain of the Claims that depend on Claims 1 and 50 are allowable for the following additional reasons. With respect to Claim 38-40, the cited passages from Donohue (fig. 2, col. 9, lines 33-65) do not disclose the steps of determining whether the time series of data is redundant of a series of data for which information has already been stored (Claim 38), not storing information about the time series of data if the time series of data is redundant of a series of data for which information has already been stored (Claim 39), and storing information about the time

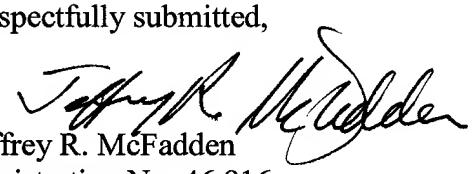
series of data if the time series of data is not redundant of a series of data for which information has already been stored (Claim 40).

With respect to Claim 41, the cited passages of Donohue (fig. 3, col. 9, lines 42-67 to col. 10 lines 1-58) do not disclose the steps of "determining whether a correlation exists between at least some of the data of the desired type contained in the at least one remote database and at least some of the data of the desired type contained in a predefined data set, and if the correlation exists, storing an indication of the correlation in association with the stored location information for the at least one remote database."

Conclusion

Applicants believe that this case is now in condition for an immediate allowance, and such action is respectfully requested. If any issue remains unresolved, Applicants' counsel would appreciate the opportunity for a telephone interview to expedite allowance.

Respectfully submitted,



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Date: April 27, 2006
File No.: W3688-030